

REMARKS

In the Office Action identified above, the Examiner:

- a) rejected claims 11, 19, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Shimagaki et al. (U.S. Patent No. 6,953, 388, "Shimagaki") in view of Burke (U.S. Patent Application Publication No. 2002/0098789, "Burke") and further in view of Katagiri et al. (U.S. Patent Application Publication No. 2003/0077906 A1, "Katagiri");
- b) rejected claims 12-16 under 35 U.S.C. § 103(a) as being unpatentable over Shimagaki in view of Burke in view of Katagiri, and further in view of You et al. (U.S. Patent No. 6,663,787) ("You"); and
- c) rejected claims 17 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Shimagaki in view of Burke in view of Katagiri, and further in view of Jang et al. (U.S. Patent No. 5,702,977) ("Jang").

By this Amendment, Applicants have amended claim 11 to incorporate the subject matter of claim 19 and have canceled claim 19. As a result, claims 1-18 and 20 are pending, with claims 11-18 and 20 under examination. Claims 1-10 are currently withdrawn.

Applicants respectfully traverse the Examiner's rejection of claims 11, 19, and 20 under 35 U.S.C. § 103(a) over Shimagaki in view of Burke and Katagiri. A *prima facie* case of obviousness has not been established.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See M.P.E.P. § 2142, 8th Ed., Rev. 5 (August 2006). Moreover, "in formulating a rejection

under 35 U.S.C. § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.” USPTO Memorandum from Margaret A. Focarino, Deputy Commissioner for Patent Operations, May 3, 2007, page 2.

Here, a *prima facie* case of obviousness has not been established because, among other things, Shimagaki, Burke, and Katagiri, taken alone or in combination, fail to teach or suggest each and every element recited in independent claim 11. In particular, the cited references fail to teach or suggest the claimed polishing treatment using “a polishing pad ... having a compression elastic modulus ranging from 300 to 600 MPa and comprising a matrix, and cells,” as recited in claim 11.

The Examiner admits that the combination of Shimagaki and Burke references do not teach the compression elastic modulus of the pad. See Office Action at page 3. Indeed, Shimagaki and Burke are absolutely silent as to any compression elastic modulus of a polishing pad. The Examiner then alleges that Katagiri “teaches a polishing pad having a compression elastic modulus of between 300 and 600 Mpa (paragraph 0017).” However, this is **not** correct.

Katagiri discloses a grindstone having a compressive elastic modulus in a range from 200 MPa to 3 GPa. See Katagiri, paragraph [0017]. The grindstone comprises abrasive that is bonded together with polyester base resin or polyimide base resin. See Katagiri, paragraph [0016], [0020]. However, Katagiri’s grindstone does **not** contain any matrix, cells, and/or recessed portion-forming material, but rather contains abrasive fixed with the resin. Therefore, contrary to the Examiner’s allegations, Katagiri’s

grindstone **cannot** constitute the claimed “polishing pad” comprising a matrix and cells, as recited in claim 11.

Moreover, one of ordinary skill in the art would **not** have been motivated to combine the teachings of Katagiri with Shimagaki and Burke in order to derive the claimed polishing treatment using “a polishing pad ... having a compression elastic modulus ranging from 300 to 600 MPa and comprising a matrix, and cells,” as required by claim 11. Katagiri does not contain any teaching of a polishing pad comprising a matrix containing particles that are dissolved to create interstices or texture on at least the portion of the pad that contacts the wafer. Instead, Katagiri discusses polishing with an aluminum abrasive fixed onto a sheet, without need for any abrasive in the slurry. Therefore, none of the references provide any suggestion to combine Katagiri’s grindstone having a compressive elastic modulus in a range from 200 MPa to 3 GPa with polishing pads taught by Shimagaki or Burke.

Thus, no *prima facie* case of obviousness has been established regarding claim 11, and claims 19 and 20, which depend from claim 11. Accordingly, claims 11, 19, and 20 are allowable over the Examiner’s proposed combination of Shimagaki, Burke, and Katagiri. The Examiner’s rejection of claims 11, 19, and 20 under 35 U.S.C. § 103(a) should thus be withdrawn.

Applicants respectfully traverse the Examiner’s rejection of claims 12-16 under 35 U.S.C. § 103(a) as being unpatentable over Shimagaki in view of Burke in view of Katagiri, and further in view of You, and the rejection of claims 17 and 18 under 35 U.S.C. § 103(a) as being unpatentable over Shimagaki in view of Burke in view of Katagiri, and further in view of Jang. The Examiner relies on the disclosure of You only

to teach elements recited in dependent claims 12-16. See Office Action at pages 5-6. Similarly, the Examiner applies Jang to teach an insulating film buried in a trench. See Office Action at pages 6-7. However, even if such teachings are present in these references, both You and Jang still fail to teach the claimed "said polishing pad having a compression elastic modulus ranging from 300 to 600 MPa," as recited in claim 11. In fact, both references are entirely silent as to any polishing method, and thus necessarily fail to teach the claimed compression elastic modulus range of the polishing pad.

Thus, no *prima facie* case of obviousness has been established, and claims 12-18 are allowable over the Examiner's proposed combination of the cited references.


In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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